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THE BEAN BAG

A newsletter to promote communication among research scientists concerned with the systematics of the Leguminosae/Fabaceae.

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THE SECOND INTERNATIONAL LEGUME CONFERENCE

ADVANCES IN LEGUME BIOLOGY

by R. M. Pohill, P. H. Raven and C. H. Stirton

At the final session of the 1978 Legume Conference it was proposed that a second meeting should be held on the biology of the Leguminosae. It was also hoped that this meeting would be held somewhere in Latin America as this would have enabled delegates to acquaint themselves with the rich legume flora there. However, the deepening of the world recession has jeopardised these plans and it now seems wiser to continue under the joint sponsorship of the Missouri Botanical Gardens and the Royal Botanic Gardens, Kew.

The second International Legume Conference will therefore be held at the Missouri Botanical Garden (U.S.A.) in the third week of June 1986. The Committee will try to structure the Conference to produce a synthetic review of legume biology and to foster collaborative research in that direction over the next four years. To this end a number of regional will also address itself to any advances made on the taxonomy of critical groups and to reviews of topics covered by the last conference.

Charles Stirton (Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, U.K.) has offered to coordinate the scientific programme for the Organising Committee and would like to hear from anyone who has suggestions of topics or who would like to contribute.

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SEQUEL TO HANDBOOK OF LEGUMES OF WORLD ECONOMIC IMPORTANCE

At a Nitrogen-Fixing-Tree conference in Bellagio, Italy, several nitrogen-fixing trees (or fuelwood species) were discussed. The Bellagio conference has deemed the underlined species most important for their consideration. Note that most of them are legumes. Jim Duke, Economic Botany Laboratory, USDA, Beltsville, Maryland 20705, is preparing information summaries on these to parallel those in the HANDBOOK and solicits reprints or personal communications relating to unusual germplasm of these species or those interbreeding with them, recent taxonomic monographs or bibliographies, growth rate, distribution, cultivation, harvesting, chromosome data, breeding systems, special tolerances, energy potential (firewood, calorific value), nutritional status, biomass yields, conventional yields, and pest problems or potential, etc. We are leaving the non-legumes in the list just to show how disproportionately important the legumes are (all except Alnus, Casuarina, Comptonia, Myrica) among the nitrogen-fixing trees.

Important Legume Fuels or Nitrogen Fixing Trees

Acacia albida Del.
Acacia auriculiformis Cunn.
Acacia confusa Merr.
Acacia cyclops A.Cunn. ex G.Don
Acacia farnesiana (L.) Willd.*
Acacia mangium Willd.
Acacia mearnsii de Wild.*
Acacia nilotica (L.) Del.*
Acacia pennata
Acacia pycnantha Benth.*
Acacia saligna (Labill.) H.Wendl.
Acacia senegal (L.) Willd.*
Acacia seyal Del.*
Acacia tortilis (Forsk.) Hayne.
Acrocarpus fraxinifolia W.A.
Albizia falcataria (L.) Fosberg
Albizia lebbek (L.) Benth.
Alnus acuminata O.Ktze.
Alnus glutinosa (L.) Gaertn.
Alnus japonica (Thunb.) Steud.
Alnus napalensis D.Don
Astragalus gummifer Labill.*
Baphia nitida Lodd.*
Bauhinia esculenta Burchell*
Caesalpinia cacalaco Humb. & Bonpl.
Caesalpinia coriaria (Jacq.) Willd.*
Caesalpinia echinata Lam.*
Caesalpinia sappan L.*
Caesalpinia spinosa (Mol.) Ktz.*
Calliandra calothyrsus Meissn.
Caragana arborescens Lam.
Cassia alata L.*
Cassia auriculata L.*
Cassia fistula L.
Cassia occidentalis L.*
Cassia senna L.*
Casuarina cunninghamiana Miq.
Casuarina equisetifolia J.R. & G. Forst.
Casuarina glauca Sieber
Casuarina junghuhniana Miq.
Ceratonia siliqua L.*
Clitoria laurifolia Poir.*
Clitoria ternatea L.*
Comptonia peregrina (L.) Coulter
Copaifera langsdorfii Desf.
Copaifera officinalis (Jacq.) L.
Dalbergia sissoo Roxb. ex DC.
Dipteryx odorata (Aubl.) Willd.*
Enterolobium cyclocarpum(Jacq.) Griseb.
Erythrina americana Mill. Gard.
Erythrina berteroana Urb.
Erythrina fusca Lour.
Erythrina poeppigiana O.F.Cook
Gleditsia triacanthos L.
Gliricidia sepium (Jacq.) Steud.
Hymenaea courbaril L.
Inga edulis Mart.
Inga jinicuil Schlecht.
Inga vera (L.) Britton
Intzia bijuga O.Kuntze
Leucaena diversifolia (Schlecht) Benth.
Leucaena leucocephala (Lam.) de Wit.*
Lonchocarpus nicou (Aubl.) DC.*
Lonchocarpus urucu Killip & Smith*
Mimosa scabrella Benth.
Myrica cerifera (L.) and other sp.
Myroxylon balsamum (L.) Harms*
Parkia roxburgii G.Don
Parkia speciosa Hassk.
Parkinsonia aculeata L.
Pentaclethra macrophylla Benth.*
Pithecellobium dulce (Roxb.) Benth.
Pithecellobium flexicaule (Benth.) Coul.
Pithecellobium lanceolatum Benth.
Pongamia pinnata (L.) Pierre
Prosopis alba complex
Prosopis cineraria Macbride
Prosopis glandulosa Torr.
Prosopis juliflora (Sw.) DC.
Prosopis pallida complex
Prosopis tamarugo F.Phil.
Pterocarpus erinaceus Poir.*
Pterocarpus indicus Willd.
Pterocarpus santalinus L.f.*
Ptercarpus soyauxii Taub.*
Robinia pseudoacacia L.
Samanea saman (Jacq.) Merr.
Schizolobium parahybum (Vell) Blake
Sesbania bispinosa (Jacq.) W.F.Wight*
Sesbania exaltata (Raf.) Rydb.*
Sesbania grandiflora (L.) Pers.
Sindora supa Merrill

*Handbook of Legumes of World Economic Importance (Plenum Publishing Corporation, New York, 1981). Send information direct to Jim Duke, Room 133, Building 001, USDA, BARC-West, Beltsville, Maryland 20705.

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FLORA NEOTROPICA PAPILIONOIDEAE

by R. M. Polhill

As a result of the 1978 International Legume Conference it is clear that a detailed knowledge of the unique richness of the Neotropical legume flora is critical to an understanding of the origin and evolution of the Leguminosae.

In recognition of this Dr. B. A. Krukoff has established a fund for the study of Neotropical legumes. Charles Stirton, a visiting Research Associate at the Royal Botanic Gardens, Kew, has been appointed by the Fund for five years to initiate a "Flora Neotropica" account of the Papilionoid legumes.

The primitive tribe Sophoreae, bridging the sub-families Caesalpinioideae and Papilionoideae, and still not clearly demarcated from the tribes Swartzieae, Dalbergieae and Tephrosieae, provides an ideal starting point.

We are aware that a great deal of work has and is being done on this tribe in the Americas. It would seem an appropriate time therefore to begin to collect the data into the more formalised format of "Flora Neotropica." To this end we have requested Mr. Stirton to prepare a generic synthesis of the tribe, and thereafter to participate, with others, in a floristic revision of the group.

We should be very interested to know of any way in which members of your Institute might like to participate in this project, particularly in the fields of taxonomy, reproductive biology, anatomy, biochemistry and cystology. We believe that it provides a wonderful opportunity for a collaborative endeavour combining the best elements of museum, laboratory and field studies.

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GLEANINGS FROM DATA COLLECTION SHEETS

BASSLER has started his study of Cuban Mimosa spp.

BIRCH has an article in press on aphid resistance in the genus Vicia and plans to continue this research at Jodrell. Also will work with legume-insect interactions, especially plant defense mechanisms (biochemical and biophysical) in wild relatives of legume crops. Starting study of the biochemical basis of host specificity for legume seed bruchids. With BISBY completing paper on taxonomy and economic value of section Faba of the genus Vicia. Needs seeds of wild relatives of Vigna, Phaseolus, Psophocarpus, Lens, Lathyrus, Acacia.

BISBY see BIRCH.

BALANDIN, KINGHORN et al have five papers in press dealing with legume quinolizidine alkaloid distribution and chemistry.

CORBY has retired. Note new address.

CRISP, a new Reader, is currently revising the genera Brachysema (20 spp.) and Daviesia (100 spp.). Has two papers in press on Australian legumes: One includes a key to genera of the Papilionoideae.

CRISTOFOLINI, note new address, is now Professor of Botany at the University of Bononia.

DELBOS (Monique) has started a study of the cytology and cytogenetics of Lathyrus tuberosus. Needs seeds of L. tuberosus, L. sylvestris, L. latifolius, L. heterophyllus, L. macrorhizus from countries other than France. Has French seeds of above species for distribution. Also would like articles on this subject.

DOYLE, note new address, has started studying the seed storage protein, vicilin, genes in Glycine max, and the ribosomal genes evolution in Glycine. Wants viable seeds of species in the Phaseoleae.

EVANS, a new reader, wants viable seeds of Sesbania for his research project: Screening Sesbania spp. for fuelwood, fodder, green manure, pulpwood, fiber, and seed gums.

FORERO see HERNANDEZ.

GEESINK see HOU.

GIBBS see MONTEIRO.

GILL has started a study of the effects of the electromagnetic field on the germination of selected Cassia seeds. Needs authenticated seeds.

GUNN reports that the mimosioid fruit-seed morphological study has been concluded and the typescript is in press. His legume genus nomenclator also is in press. He and LERSTEN are beginning a study of lenses of legume seeds.

HERNANDEZ, a new Reader, starting a systematic study of some of the American species of Calliandra, including aspects such as pollination ecology, seed dispersal, cytology, palynology, etc. This will be done as part of his Ph.D. dissertation and in collaboration with FORERO, Marcelo Ataide (Brazil), and John T. Romeo (USA). He will be in southern Mexico during the summer of 1983.

HNATIUK see MASLIN.

ROB GEESINK, Rijksherbarium, Schelpenkade 6, P.O. Box 9514, 2300 RA Leiden, Netherlands has a limited number of copies for distribution of the legume generic names and synonyms treated in Engler & Prantl, editions 1-4.

HOU, a new Reader, is working with GEESINK on a revision of the Caesalpinioideae for the Flora Malesiana.

JOHNSON needs bruchid beetles reared from seeds of neotropical plants. Recently returned from Colombia, Venezuela, and Brazil.

KINGHORN see BALANDIN.

LERSTEN see GUNN.

MAHMOOD, a new Reader, is conducting a qualitative survey of nodulating ability of legumes of Pakistan.

'T MANNITJE after 24 years of research in subtropical pastures has returned to the Netherlands to become Professor of Grassland Science. Will annotate Stylosanthes.

MANTOUANI, a new reader, is working on Pterodon with Joao Semir of Campinas, Brazil.

MASLIN has started several projects: 1) with E. E. Conn, University of California, Davis, a cyanogenesis survey of Australian Acacia spp.; 2) with HNATIUK, PEDLEY and S. D. Hopper of the Queensland Herbarium, a phytogeographic analysis of Acacia in Australia; and 3) with R. B. Knox and J. Kendaix, both of the University of Melbourne a breeding systems in Australian Acacia spp. He will annotate Australian Acacia spp. Has started on Acacia section Phyllodeneae (±300 spp.) for the new flora of Australia. Publication expected in 1986. Other contributors in Acacia include PEDLEY, TINDALE, ROSS, A. B. Court.

MONTEIRO, a new Reader, working with GIBBS needs literature and seeds of New World Sesbania and Brazilian Lupinus.

NASH, a new reader, needs seeds of species of Angylocalyx and has seeds of some European legumes.

PEDLEY see MASLIN.

ROSS see MASLIN.

SCHREIBER will annotate legumes from southwest Africa.

SHOCK completed his Ph.D. and has a new address. He will evaluate forage legumes and will welcome suggestions of promising germplasm from Readers. Has seeds from three Leucaena leucophala lines adapted to the Sacramento Valley, California, for distribution.

SINGH, a new Reader, needs 50-100 grams of Baphia nitida, B. kirkii, and B. boquaertii and from 1 to 2 grams of any other Baphia species. Her preliminary screen has uncovered several interesting compounds. Wants to hear from interested Readers.

STIRTON is studying seed morphology of the tribe Sophoreae and urgently needs seeds of Baphia as well as seeds of other genera. Wants to correspond with others interested in this tribe, especially chemistry, anatomy of petioles, leaves and woods, genetics, seedling morphology, dispersal ecology, and pollination biology.

TINDALE see MASLIN.

ULIBARRI, a new Reader, will annotate Adesmia sheets and welcomes duplicates.

VERCOURT will annotate New Guinea legumes.

VIETMEYER notes that Jeff Gritzner has about one-half pound of Geoffroea decorticans seeds to be used in trial plantings.

YAKOVLEV has returned from a field trip to Vietnam.

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FIGURE 112.—*Daubentonia punicea* (Cav.) DC. Coffeeweed. *A*, Habit, upper branches showing flowers and mature pods—× 0.5; *B*, Seed, 2 views—× 2.

By Regina O. Hughes from USDA Agri. Handb. 366